News Magazine of the American Standards Association, Incorporated



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Assn of Iron and Steel Engrs Company Members—More than 2000 companies hold membership either directly or by group arrangement through their respective trade associations.

Marginal Notes

The Netherlands-

Publication of Part II of the article "Holland Standardizes" in this issue coincides with the visit to the United States of Queen Juliana and her husband, Prince Bernhard. Although tulips, windmills, and wooden shoes are the traditional symbols that typify Holland in the public mind, Oueen Juliana and Prince Bernhard stand for the development of modern mass-production methods and expansion of Holland's electrical, mechanical, and chemical industries. Plastics and rayon, radio and television, transformers and electric motors, not to mention shipbuilding, coal, and oil, are only a few of the products which are being turned out in increasing amounts by factories rebuilt and expanded since World War II.

At one time Holland was one of the wealthiest countries in the world, due to her seafaring people, her world-wide merchant trade, and large colonial holdings. During World War II she lost possessions and sources of revenue that had taken centuries to accumulate. She is now struggling to rebuild her badly damaged economy. Her history follows a pattern similar to that of other countries in post-war Europe. Receipts from investments abroad are no longer what they were before the war. To pay for essential imports she must, therefore, export more than ever before. Her story appears in her import and export figures. In 1946 the United States imported 22 millions of dollars of products from the Netherlands; Holland purchased 234 millions of dollars in the United States. In 1951 the amount of goods imported by the United States from the Netherlands had risen to 119 millions of dollars; Holland's purchases in the United States had risen to 282 millions.

Holland's economic experts estimate that by the end of 1952 the production of its industries must be more than 30 percent higher than in 1948 if she is to become self-supporting and if her working population is to be kept employed. She must sell nearly 2½ times as much of her industrial products in other countries as she did in 1948. Labor in the Netherlands industries must be more than 23 percent more productive than in 1948.

Standardization and the Centennial of Engineering

Using as its theme "Standards— Engineering Tool for Industry," the Third National Standardization Conference is helping to celebrate 100 years of engineering in conjunction with the Centennial of Engineering at Chicago. The Conference will meet September 8-10 at the Museum of Science and Industry, also headquarters of the Centennial.

One hundred years ago, in 1852, the first national civilian engineering society was organized. Named the American Society of Civil Engineers to distinguish it from the military branch of engineering, the Society became the parent of all the other national societies which have since grown up to advance scientific knowl-



Our Front Cover

This picture illustrates how two button controls installed on press remove operator's hands from danger zone before press can be started.

This is one of the methods recommended in the American Standard Safety Code for Power Presses and Foot and Hand Presses, BII.I-1948. See "The States and Safety," page 113. Photo-Western Electric Co.

Opinions expressed by authors in STANDARDIZATION are not necessurily those of the American Standards Association.

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April 1952

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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-ASA

Ruth E. Mason, Editor

Nina Asto, Production Editor

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Re-entered as second class matter Jan. 11, 1949, at the P.O., New York, N. Y., under the Act of March 3, 1879.

Standards Engineers

Machinery Manufacturer in Philadelphia has several openings on its permanent engineering staff for experienced Standards Engineers.

The selected individuals will have interesting and diversified work in the correlation of design information on product releases to established Company standards, and the investigation and preparation of new design and manufacturing standards. Their interest in new advances should guide them so that they keep abreast of national and international standardization activities.

It is essential that the applicants be self-starters with leadership potentiality. They must be able to participate in and direct the activities of several committees, including manufacturing and inspection personnel.

Please reply with a complete resumé to:

CH-18, P. O. Box 3414 Philadelphia 22, Pa.

edge and technique in individual branches of engineering.

Celebration of the Centennial of Engineering began March 26 with a meeting of the American Power Conference. It will last for six months. winding up with a 10-day international convocation in Chicago starting September 3. During the September assembly 51 American engineering societies and several from Europe, Latin America, and the Far East will meet. An exhibit at Chicago's Museum of Science and Industry will tell the story of American technical advancement and will show the social consequences of this development. This exhibit will continue to be shown for a period of five vears.

The story will also be told by means of a dramatic stage production depicting man's technical progress from the days of the caveman to the harnessing of the atom.

Major Lenox R. Lohr, president of the Museum of Science and Industry and state director of Illinois Civil Defense, is president of the Centennial. Charles F. Kettering, director and research consultant of General Motors Corporation, and director of the Sloan-Kettering Foundation, is chairman of the Centennial's Executive Committee.

The American Standards Association is represented on the Centennial Committee by R. F. Bergmann, vicepresident, Link-Belt Company, Chicago, Illinois, and by P. L. Houser, General Supervisor, Manufacturing Standards Research, International Harvester Company, Chicago, Illinois.

Plans for the Third National Standardization Conference are well under way. Announcements of the preliminary program show that it will begin Monday, September 8, with a session sponsored by the Company Member Conference. The opening address will be made by Roger E. Gay, president of the Bristol Brass Corporation, Bristol, Conn., and president of ASA. S. H. Watson, RCA Victor Division, Radio Corporation

of America, Camden, N. J. will preside.

An afternoon session on Modular Coordination will be sponsored by the American Institute of Architects. Colonel Willard Chevalier, Executive Vice-President, McGraw-Hill Publishing Company, New York, will act as moderator.

On Tuesday, September 9, a general session sponsored by ASA's Standards Council will feature outstanding accomplishments in the development of national standards. J. R. Townsend, Bell Telephone Laboratories, Inc, Murray Hill, N. J., will preside.

The Tuesday afternoon session on Standards for Packaging will be held in cooperation with the National Safe Transit Committee.

The general session on Wednesday morning will present a program on procurement standards sponsored by the Chemical Industry Correlating Committee of ASA. The moderator will be W. T. Nichols, Director of Engineering, Monsanto Chemical Company, St. Louis, Mo. Speakers will include F. S. G. Williams, Vice-President, Taylor Forge and Pipe Works, Chicago, Illinois, and J. G. Henderson, Union Carbide and Carbon Corporation, Charleston, W. Va., and chairman of the ASA Chemical Industry Correlating Committee.

Also on Wednesday morning, an open meeting of the Conference of Executives of Organization Members of ASA will feature a forum for managing executives of technical societies and trade associations. T. E. Veltfort, Manager, Copper and Brass Research Association, New York, N. Y. will preside over a program on "The Engineering Significance of Standards."

An innovation at this meeting will be the registration fee to be charged by ASA, amounting to \$2.00 per session or \$10.00 for all sessions.

Another innovation this year is the fact that ASA's annual meeting will be held separately from the Conference. The meeting, and presentation of the Howard Coonley and Standards Medals, is to be at The Waldorf-Astoria, New York, November 19.



POWER TRANSFORMER DEPARTMENT

100 WOODLAWN AVENUE, PITTSFIELD, MASS TELEPHONE 8211

April 1, 1952

SUBJECT: New ASA Recommended Standards for Transformers

MEMORANDUM: To all G-E Transformer specialists and readers of Standardization

The transformer standards recommended by the American Standards Association (C-57 Sub-committee, lst report - 6th draft) represent a joint effort with the industry and are well in line with the policies of this department.

We achieved the first effective standardization of power transformers in 1944 when we introduced our Repetitive-Manufacture line. The new recommended standards are, in a sense, a realization of these early efforts.

The kva ratings, voltage ratings and most accessories approved as standard by ASA have been available for some time as part of General Electric's "RM" line. Some minor modifications in base construction and location of accessories will be necessary for complete conformance with ASA Standards.

Customers desiring ASA standard transformers may order immediately. The necessary modifications will be made at the time of manufacture. Delivery and price advantages will be the same as those for present RM transformers.

W. S. Ginn

W. S. GINN General Manager Power Transformer Dept.

AGA Tests for Safety-Tests carried out at the American Gas Association's Testing Laboratories check on performance and safety of gas appliances and form the basis for authorization for use of AGA's approval seal (below). Right (Top) Automatic pilot lights are put through extensive safety trials. Here a whirring fan plays on the pilot flame to test its extinction qualities. Requirements for automatic pilots were brought up-to-date in a new edition of American Standard Z21.20 late last year. (Center) Wall space heaters are tested to determine how efficiently they operate with various types of gas. (Bottom) High performance standards are required for commercial gas cooking equipment. Proper heat distribution and insulation are important factors in commercial range operation. Sensitive instruments are used in making exhaustive tests.









AGA Expands Safety Service

Controls and heating units of gas appliances are given rigid tests before installation. Here, (right), automatic controls of floor furnace heating unit are checked.

SERS of gas appliances-gas ranges, refrigerators, hot water heaters-will be interested in the new steps being taken by the American Gas Association to further extend the services the industry has been giving its customers. For 26 vears the Association has been certifying gas-burning appliances on the basis of laboratory tests made in accordance with American Standards. This certification has covered efficiency of gas combustion, strength of construction, and safety of operation. Because of this program, the Association recently announced. safety standards for domestic gas appliances have been raised during the past 26 years to an amazing extent. No other major industry in the world has set up such a system for steadily improving appliances by constantly raising its safety and performance standards, the AGA pointed out.

Despite this, however, one of the top problems before the American Gas Association has to do with safety. As Vice-President Charles E. Bennett said recently: "One of the most, if not the most, important problem before the gas industry is restoration of the confidence of the public in the safety of our product, our operations, and our appliances and equipment. A series of happenings over the past year have created a public fear of gas, coupled with a feeling that government must regulate the gas industry in the interest of safety."

The Association is meeting these new, modern challenges by appointing an Executive Safety Committee to advise the gas industry on national accident prevention policies. It also has set up a Committee on Customer Service Responsibility to review servicing and installation policies and to



American Gas Assn-Gas Appliance Mfrs Assn

delineate the responsibilities of manufacturer, distributor, dealer, and gas company. Gas appliance installers and servicemen must have specialized training and experience. Many plumbers and dealers do not have enough of either to assure safe and efficient installation and servicing of gas appliances. The new committee is to determine the utility's responsibilities in this important matter, AGA explains. This committee will cooperate with a parallel committee of the Gas Appliance Manufacturers Association.

The list of members of these two committees reads like a roster of nationally prominent executives in the gas industry. Howard B. Noyes, vice-president, Washington / Gas Light Company, Washington, D.C. is chairman of the Committee on Customer Service Responsibility. Charles E. Bennett, president, the Manufacturers Light and Heat Company, Pittsburgh, and first vice-president of the American Gas Association, heads the Executive Safety Committee.

Most people, particularly in the standards field, know of the outstanding record of the American Gas Association in testing and certifying gas appliances. Nearly 50,000 models of gas appliances have been tested since establishment of the AGA Laboratories in 1925. As many as 600 tests are performed on today's modern gas range to insure safety, good perform-

ance, and sound engineering. These tests grow progressively tougher as standards are advanced to keep in step with technological progress and developments. All tests for approval are made in accordance with published standards sponsored by the gas industry and approved by the American Standards Association. Manufacturers must submit models of their appliances for approval to the Laboratories before they can display the AGA Approval Seal. This registered symbol identifies all approved gas appliances. Even after approval, rigid inspections are made of models on the assembly line to make sure all standards are being complied with on current production.

Recently a new document was added to the approved American Standards for gas appliances which is proving one of the most helpful standards in many years, the Association reports. This is the American Standard for Installation of Gas Piping and Gas Appliances in Buildings, Z21.30-1951.

This new standard combines under one cover all of the information needed for proper installation of gas appliances. It not only includes requirements for installation of piping inside buildings, (residential and commercial, not industrial) but also includes requirements for mounting appliances and for venting. For example, when gas burning appliances are being mounted in place, the question arises whether or not floors are combustible and how much clearance is to be required between the gas range, refrigerator, or water heater and combustible walls, neighboring cabinets, or other surfaces.

With two earlier installation standards, the gas industry now has material needed in the preparation of local building codes and ordinances. These earlier standards are the American Standard Requirements for Installation of Domestic Gas Conversion Burners, Z21.8-1948, and the American Standard Requirements for Installation of Gas Burning Equipment in Power Boilers, Z21.33-1950,

These three standards have been agreed upon by a consensus of groups concerned and have been adopted by many localities. Much can be done through their proper use and adoption in other communities, AGA says.

For example, American Standard Z21,30-1951 makes available an approved uniform gas appliance and installation standard intended for adoption as a segment of a building code. To the extent that these standards are adopted in local building codes, steps are being taken toward a national uniform building code.

Pointing to the advantages of such adoption, the American Gas Association declares: "Uniformity makes it cheaper to plan house construction." As an example it points to the problems encountered by a manufacturer of steel prefabricated houses.

In endeavoring to locate gas piping in these homes the manufacturer found numerous and conflicting requirements as to where gas meters should be located. In some places there were limitations above the floor, below the ceiling, away from a door jamb, near an electric meter. There was no one place in which gas piping could be put in prefabricated houses of a standard type which would meet requirements of cities as little as five miles apart. The same sort of limitation exists with regard to chimneys, with regard to the manner of installing furnaces and similar equipment.

Use of the new standard would eliminate such a conflict, AGA points out. This is because it sets forth the



Conversion from manufactured to natural gas gives gas companies a mammoth job. One of the processes—drilling burner parts of a customer's range.

American Standard Installation Requirements provide guide to safety.

conditions under which a proper installation can be made and gives assurance that when the standard's requirements are followed, the system will be safe and proper. The establishment of uniform clearance dimensions, uniform rules for venting and uniform rules for mounting appliances benefits the consumer, the manufacturer, the utility, and the contractor, since it simplifies the problems of design and installation.

Even more important than saving dollars through unification, however, is the benefit that accrues because this standard assures installations that are safe when new and that will remain safe over their entire life.

Safety from fire hazard is assured proper clearances and insulation.

If the requirements on air supply are followed, enough air will be provided for proper combustion of the

gas needed for efficient functioning of the appliance. The products of combustion must be carried off in order to prevent interference with the safe functioning of the appliance or even danger to the occupants of the room. Adequate air supply is provided by the standard by indicating how large an air supply opening will be required for furnaces and water heaters installed in utility closets. Further assurance of adequate air supply is found in the rules forbidding the installation of unvented space heaters in bedrooms or the use of water heaters in bathrooms. In addition, rules specify that a vent is necessary if the input of the appliance exceeds 30 Btu per hour for each cubic foot of room air content.

Summarizing the advantages, the AGA declares:

"The adoption of a recognized

standard establishes a clear cut definition of permissible installations. This in turn effectuates a control of appliance practices and control of appliances installation. Gas companies then are able to accept or refuse a given appliance and its installation. The company also can make the necessary corrective steps when an improper installation is found, even though such an installation is not obviously dangerous. This will lead toward greater safety and greater appreciation of gas service in the home."

Another recent development in improved safety of gas appliances is inclusion in Approval Requirements standards of performance tests for the electrical accessories that form part of modern gas burning appliances. For many years requirements for electrical components have been based on the National Electrical Code. Now, in addition, special requirements outline clearly the electrical performance that can be expected of gas appliances equipped with electrical accessories. Also, performance tests tell how to determine that the accessories comply with these requirements. In addition to the tests carried out at the AGA's own Laboratories, recognition is given to testing facilities provided by Underwriters' Laboratories and other nationally recognized testing agencies.

The additional performance requirements on electrical accessories are essentially checks on the quality of the circuit insulation. They are methods of determining whether or not adequate dielectric has been interposed between the current carrying parts and those parts that can be touched by the person using the stove, refrigerator, or other appliance. Two major properties of electrical insulation must be determined under the new provisions. Inadequate insulation may allow very small currents to flow from an energized conductor to the frame of the appliance. Any appreciable amount of such current may cause the parts of the appliance to become charged, resulting in an electrical shock hazard to the user. Such currents are called leakage currents because they "leak" from a part of the circuit at high potential and

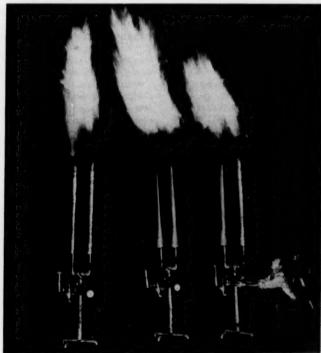
take a short cut through the appliance itself back to a part of the circuit at low potential. Provision has been made for measuring such currents and it is specified that they must not exceed a value which causes no perceptible shock sensation to human beings.

Although insulation may not "leak" appreciably, it may be so thin as not to be able to resist complete breakdown after long periods of use or when electrical potential is increased above its normal value. Therefore, the second major property of insulation now covered in detail is its resistance to complete breakdown under high potential. The heavier the insulation the less potential per unit thickness is imposed for given voltage, so that in one sense the "breakdown" voltage of insulation can be taken as a measure of its effective thickness. Many years of experience in the electrical industry have indicated that effective insulation thickness corresponding to 900 volts is required for satisfactory performance and durability of circuits normally operating at 250 volts or less.

It is thus obvious that the second test to determine whether electrical assemblies are safe involves stressing the insulation with a high voltage impressed between the current carrying parts on adjacent metal parts of the appliance. Since this test "proves" the integrity and electrical strength of insulation, it is generally referred to as a "proof voltage" test. The 900-volt 60-cycle alternating current test potential is applied through special instrumentation to insure that insulation is evenly stressed throughout the appliance.

These two performance tests, as well as determination of insulation and electrical component temperatures, are conducted with the appliance operating under the condition of test specified for determination of

(Continued on page 126)



American Gas Assn-Gas Appliance Mfrs Assn

Gas utility company's pipes must be cleared of manufactured gas before natural gas can be used. Manufactured gas is being burned away (above).

Holland Standardizes

By ir F. van Teutem

Secretary, Hoofdcommissie voor de Normalisatie in Nederland (Netherlands Standards Association)



PART II

Netherlands Information Service

Windmill near the Tienhovensch Canal (Utrecht)—typical of Dutch scenes tourists know. With electric power, her growing industries place Holland among ranks of modern industrial countries.

'OLLAND'S long history as a colonial power may be one reason her industries are particularly sensitive to the significance of international coordination of standards. In Part I of this article (STDZN, March 1952, p 69), Mr van Teutem quotes the ancient scientist and philosopher, Archimedes, to emphasize his point that even a small force applied properly can bring about important results. "Give me a place to stand and I will move the world," Mr van Teutem quotes Archimedes as saying. In this case, Mr van Teutem's "small force" is standardization, and the important result to which it may lead is greater international understanding.

More of Holland's industries report their experience with standards in this final installment, below.—Editor

Machinery

Stork Bros Ltd, Hengel. One of the oldest machinery factories in the Netherlands, Stork Bros, Ltd, Hengelo (turbines, pumps, diesel engines, fans, boilers, etc) writes about tool standardization in the factory:

Standardization of tools is of special importance. In addition to simplification and price reduction, other advantages are obvious; less waste of time in the workshops, for example, and improvement of the often traditional construction of the tool. Both result in an increase of production.

For this reason we have always strongly promoted the standardization of tools, as shown in the following examples:

T-slot bolts—About ten years ago the tables of milling machines, shapers and planers, plates, etc at our factory were provided with a variety of different T-slots. By modifying the machines and limiting the number of T-slots to 6 sizes and by standardizing the lengths of the bolts, it has been possible to keep a stock of T-slot bolts and to avoid any further delay.

Most European manufacturers of machines apply T-slots that fit our metric standardization; however, most of the machines we buy in the USA have to be modified.

Milling arbors—A similar simplification has been obtained by standardizing milling arbors. For fitting the arbor to the machine the American Standard taper has been chosen. In the past few years there has ceased to be any objection to this on the part of the greater number of European manufacturers. It is a pity that the American Standard taper deviates somewhat from English standards.

Owing to the lack of international uniformity we have been obliged to introduce our own standards for fixing the milling cutters on the arbors. We have had to have these manufactured to our own drawings.

Turning tools—Standardization of turning tools offers an example of the technical advantages that result from standardization. The leading Dutch machine shops have combined their experiences and have prepared standard specifications. These comprise the latest ideas about models and angles, while the number of shank dimensions and the number of models have been greatly limited.

This is the reason that, not withstanding their limited sales opportunities, Dutch manufacturers of turning tools can make larger series and turn out a product which can compete with foreign makes, while at the same time the Dutch users obtain a product in which the latest technical developments have been incorporated.

Drawing Paper

One of the first subjects of standardization has been drawing papers with preprinted lay-out of the drawing sheet.

L. L. Servans, Leyden, has succeeded in delivering preprinted drawing papers. This company writes:

In 1920 our firm, Papier Centrale L. L. Servaas at Leyden, started with the sale of tracing sheets according to standard sizes (N 14 and N 15) and also printed sheets in accordance with standards N 36 and N 38, Title and Schedule (layout).

At that time, the standard sizes had to be cut from the normal width of the rolls and loss of paper could not be prevented. Now and then this loss became very important. The European paper mills, in Germany, France, and Switzerland, were not willing to deliver natural tracing papers and tracing cloth to a more suitable width or to standard sizes. The mill-owner charged extra for the broke and for the cutting of the sheets.

In 1920 and the years immediately following, the use of standard sizes made slow progress here. The paper mills and some wholesale merchants and retailers were very critical about the sale of "new" sizes for all kinds of papers and covers, especially tracing papers. Then, too, most draftsmen did not especially care for the standard sizes. It is frequently the case that people do not like to break their old habits.

After the publication in 1925-26 of general standard paper sizes with dimensions in the relation of $\sqrt{2}$, the use of these sizes gathered momen-

¹ German standard sizes (Deutscher Normenausschuss). tum. The stanslard sizes were also efficient for the paper mills. The European mills started with the delivery of the rough DIN¹ sizes. These sizes are a little larger than the tracings to be applied, which is necessary for technical reasons in printing the sheets. Loss of paper is now cut to a minimum.

Since then, the general use of standard sizes for all kinds of drawings here and in other European countries has rapidly increased. We can state now that nearly all important factories are using preprinted tracings (the so-called A series) in their drafting rooms, because the sizes are most efficient!

Shipbuilding

Shipbuilding is an important industry here, both for sea-and inlandnavigation. The committee collaborates very closely with shipowners and distributors of fittings.

Koninkluke Nederlandse Stoomboot Co, Ltd, (KNSM) Amsterdam writes:

In our specifications we regularly refer to the national standards. All shipbuilding yards, engineerings works, etc, have complete collections of standards; thus communication is made easy, and writing and drawing is reduced to a minimum. Generally speaking, in most cases the standards will do.

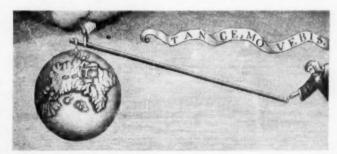
It frequently occurs that a commercial type is maintained in addition to the standard; in such cases the standard can be used as a base of comparison. We consider it also very valuable that standardizing requires a more thorough study of the constructions. Therefore we also have many factory-standards which often can be used for starting national standardization.

Handelscompagnie, Ltd, Rotterdam. This trade company says:

We are glad to say there is considerable improvement in rigging with standardized parts and designs. We apply standards, both for national and foreign ship-owners because nonstandard design would meet many objections due to the necessity of knowing in advance the load, the connections, etc. Variations would also complicate the whole setup. Because some standards have only recently been established, not all yards have adopted them vet - for example, blocks deviate rather frequently, but shackles, rigging screws, chains, steel cables, ropes, etc, are quite standard. In practice, the standards have led to considerable simplification. We do not believe that further economies will be possible, because manufacturers have already specialized.

Building

In the Building Section Holland has extraordinary difficulties due to the fact that nearly 10 percent of its houses were damaged during the war. There will not be sufficient labor and materials to overtake the shortage for about 15 years. Rationalization, reduction of size standardization of materials and methods are applied as much as possible, but quality must be maintained and even improved for



"Give me a place to stand and I will move the world." How Archimedes' lever might (theoretically) be used to move the world—illustration from a 1787 French publication "Projet d'une nouvelle mecanique" by Varignon.

the sake of durability. Double inhabiting even in rather small single houses, is urged as a matter of necessity.



Ratiobouw, The Hague. The Institute for the Rationalization of Building. Ratiobouw. The Hague, founded for technical and scientific control, especially with respect to non-traditional constructions, has written:

Before World War II standardization activities in the field of building did exist but they were mostly confined to basic materials (cement, lime, etc.) or to products in a subordinate position.

Quality control on building is exercised by the local authorities, which set up building regulations for that purpose. Nearly 1000 of these local authorities were in existence in the Netherlands, all of which differed more or less from each other.

After the war the shortage and high cost of traditional materials (especially timber) and skilled labor (especially bricklayers and plasterers) and the desire to cope with the increased cost of building by raising efficiency led to the introduction of non-traditional materials and construction. Divergence of opinion as to the quality of these materials and constructions caused difficulties and emphasized the necessity of standards on quality control in non-traditional building. This led to the revision of some existing standards and to the creation of new standards.

Revised were:

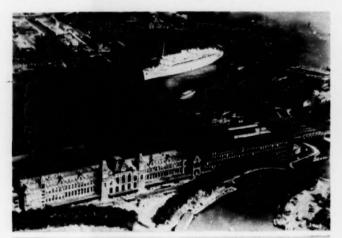
- (a) The standards for mechanical performance of construction:
- (b) The code for re-inforced concrete. New standards are published or drafted for;
- (c) thermal performance of dwellings:

- (d) sound insulation of dwellings;
- (e) daylighting for dwellings;
- (f) floors of reinforced concrete for dwellings;
- (g) floors of reinforced brickwork.

The municipal building regulations generally conform to the functional standards, but they elaborate on several details and on subjects not covered by the functional standards. To obtain more unification in these regulations a governmental committee was set up which has tackled the task of drafting a national building code.

For non-traditional constructions, the Institute, Ratiobouw, is promoting unification in performance requirements for all aspects not covered by standards or building codes. It has elaborated a set of performance tests for light partitions (widely used in non-traditional dwellings) on which more practical experience is needed before they can be converted into standards.

So in the past two or three years great advances have been (and still are being) made towards unification of the requirements for building construction. Effective standardization of building components has been impeded up to now by lack of unity in requirements in several parts of the country. The non-traditional methods of construction which account for 15 percent of present house production have introduced a new outlook on these problems; they have given an impetus to the standardization of requirements and so cleared the ground for a more general use





of standardized building elements and components. It may be expected that this development will bring an augmentation of building standards on materials and constructions in the next years.

The Union of Netherlands Bricks Industries writes:

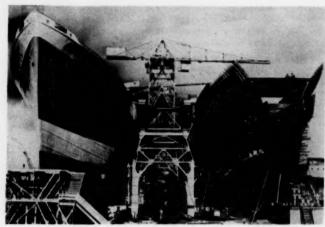
In the Netherlands, with a population of about 10 million the use of building bricks is more than 1200 millions and paving bricks are made up to nearly 600 millions a year. There is only a very small production of common building bricks in this figure of 1200 millions. Most of them are used as facing bricks and the major part has a sand-face texture. Several colors are produced and used, according to the preference of the architects.

The inner walls of housing developments are generally erected in sandlime bricks, made by a separate industry in quantities of 600-700 millions a year. These walls are plastered
and the bricks are no longer visible.
The facing bricks of burnt clay are
separated by neat joints and show
their own colors as well as their
peculiar texture. They produce buildings pleasing to the eye. A great
variation is possible and individuality
for each building can be obtained.

Building Bricks—The rules for standardization had to be adapted to the variation in color and texture that forms the chief attraction of the Dutch building brick. The specifications contained in standards N 520 and N 521 (1934) have been in continuous use since 1934. They have given satisfaction in practice, because quality and size are strictly regulated, while color and texture are free and in each case are only subject to a sample of at least 10 bricks.

There are three possibilities:
(a) There is no sample at all; (b)

Left (top) Flagship of the Royal Netherlands Steamship Company leaving Amsterdam harbor; (bottom) The Y-harbors of Amsterdam. The "Y" is the wider zone in the North Sea canal which connects the North Sea with the lissel Meer across North Holland. Netherlands Information Service



Netherlands Information Service

Here, these Dutch ships are under construction in the shipyards at Rotterdam.

There is a sample but it is arranged between the parties concerned that it will only serve as proof of origin, kind, size, dimensions, and color (i.e. variation of color). (c) There is a sample and it is valid on all points with the exclusion of all specific requirements.

In modern times this system of specifications for quality and size only, and a sample for appearance, has proved to be the only one that meets our architects requirements for a free choice in color and texture, and at the same time providing assurance of technical reliability. This is the case to such an extent that the prices prescribed by our government quite recently have been made subject to quality and size as provided in N 520. The rules given in N 521 for execution of the tests are scientifically justified as the result of a former exchange of ideas on this point between our best laboratories.

In our country which has practically no natural stone, facing brick has take a first place and is the main material for the fronts of even our biggest buildings.

For this reason, more liberty is needed here than in the United States of America, for instance, where generally the appearance of the bricks plays a secondary part in cases where they are plastered and hidden. For the same reason it is not possible to keep production to one single size of brick instead of three or four.

The aesthetic value of the different sizes is most important from the architect's point of view.

The general size is the so-called "waalvorm" (W) with the following average dimensions enumerated in N 520: 212 x 104 x 54 mm. This means 9 headers (or 41/2 stretchers) per meter horizontally and 16 layers per meter perpendicularly with the inclusion of normal joints. Steps have been taken in our country, too, to arrive at a certain module for all parts of a building and for the building itself. It will be fixed at 10 cm. very near to the 4-inch module of the USA. The existing "W" size. however, has not been changed. Practical considerations are against it and the only change recommended is to make the bricks slightly thicker after a certain length of time, so that 3 layers on 2 x 10 cm (perpendicular) are obtained. It will, however, take a good deal more time, before there is general approval of this modification by all interested parties.

Paving Bricks—In 1934 standardization of paving bricks was not yet possible. Since then our Ministry of Waterways and Public Works, being a great user of Dutch Paving Bricks, has worked out a series of official tests which are very severe. These contain, among others, a test of American origin: the Rattler Test in a modified form.

During the last couple of years this series of official tests has become more general. A testing committee has been created by the above-named Ministry and a buyer can submit his lot of paving bricks to be tested before shipment by this committee. In case the requirements are met, the Testing Committee issues a certificate specifying all particulars of quantity, size, quality, and name of the works.

This general arrangement, adopted by the makers, too, guarantees the quality of the paving brick and gives satisfaction to all parties concerned.

Textile Machinery Erven Ankersmit, Cotton spinners, Deventer, write:

The committee for textile machinery parts consists of experts of various important textile factories in the cotton and wool section.

It is felt that full cooperation of the machine makers is of great importance and therefore we have mainly concentrated our attention on those parts which are being made in this country.

We standardized reeds and reed numbers, pickers for light looms and for underpick looms, Jacquard weights, heals, forks, and shuttles. For winding machinery we prepared standards for cones and we are now studying the subject of bobbins for speed frames. Here we are up against a disadvantage due to the fact that these machines are not made in this country. International cooperation, we feel, is essential, especially between the machinery makers and the manufacturers who use their machin-

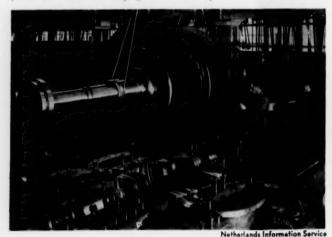
As a practical example I may refer to the standardization of shuttles, in which the shuttlemakers showed great interest and gave us their full support.

With the help of the producers and their customers we were able to reduce the number of models and sizes considerably, with the well-known advantages that delivery times can be reduced and the holding of stocks made easier.

We also found that there were several names in use in various districts for the same machine parts and so completed a long list of standardized names for loom parts.

The members of our committee stimulate the buyers of their respective firms to make use of the standards and through the medium of the manufacturers' organization we endeavor to encourage the use of standardized parts.

We are convinced that there is a wide unexplored field (e.g., pirns and spindles) which, when agreed upon, might result in quicker deliveries, less waste, lower prices, and thus higher efficiency.



Low pressure rotor of 30,000 to 35,000 kw condensing turbine for Municipal Electric Works, Amsterdam. It operates at 3,000 rpm, 26 to 32 kg per sq cm absolute steam pressure, temperature 400 to 425 C.

Hospitals

The Economic Chief of the Municipal Hospital, the Hague, writes:

The committee for the standardization of hospital equipment commenced its work in 1929 and started to standardize the hospital beds and hospital furniture. It soon became evident that the standardization of hospital beds would be facilitated if the standardization of textile goods for hospital use, especially textile for hedding, were regulated. The variety in models and sizes of beds was extraordinarily large.

The committee designed models and measurements for: beds for patients; for children; for personnel and old people (no patients); and for mentally deficient.

Also, the models and measurements have been laid down for bedside cabinets and stretchers.

Standardization of hospital furniture has been limited until now to beds, bedside cabinets, and stretchers. It is quite certain that other things are also appropriate subject for standardization, e.g., reading-tables for patients, food conveyors (whether or not electrically heated, open or closed), etc.

It has become clear that in a number of hospitals standardization has not yet received the interest it deserves. It often happens that personal taste dictates the selection of models, with no consideration to the possible extra cost involved.

Standardization has to grow gradually. It is expected that little by little the hospitals will conform to the regulations of the standardization committee.

We should like also to draw attention to the definition of standardization formulated by Prof Dr Ir Goudriaan: "The purpose of standardization is to equalize things that are different, to the extent that research has shown variety to have no reasonable foundation and limitation of variety to offer certain benefits.

"Standardization of hospital goods deserves full attention because it enables manufacturers to produce goods in larger quantities, with a corresponding favorable influence in prices and guarantee of smoother delivery."



Standard Guards

Pay Dividends

National Safety Council, Inc



Above (Right) This guard held broken pieces together when emery wheel "blew up." thus preventing severe injury to operator, see story below. (Left) Operator wears protective goggles and uses shield to guard against flying particles. Wheels not protected by standard hood quards expose operator to severe injury or even death if wheel should shatter.

THILE Clarence Lattin, machinist at Coos Bay Pulp Corporation, Empire, Oregon, was working at an electric stand grinder the emery wheel suddenly "blew up." Fortunately for Mr Lattin the wheel was well guarded. The full hood guard protecting the wheel held the broken pieces together and prevented what might have been a serious, if not fatal, injury. The impact of the broken wheel was so strong that it even caused a small crack to develop in the bottom of the guard.

"It is not known definitely what caused the stone to break," reports the publication of the State Industrial Accident Commission, Safer Oregon. "It was a relatively new stone and had been properly installed and operated at the correct speed. Luckily, the guard was there to keep the pieces from flying. In this case, it more than paid for itself by eliminating the possible cost of a serious injury."

The American Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1-1947.

includes specifications for protection hoods, flanges, chucks, and revolving cup guards as well as rules for the proper storage, handling, and mounting of wheels. It also lists the recommended safe speeds for various wheel diameters. The standard, sponsored by the Grinding Wheel Manufacturers Association and the International Association of Industrial Accident Boards and Commissions, was developed by a committee representing the various manufacturing, user, and safety groups concerned.

Safer Oregon points to a few precautions, in addition to guards, for the safe use of grinding wheels: Most of these are covered in the standard in greater detail:

"Grinding machines should be sufficiently heavy and rigid so as to minimize vibration. They should be securely mounted to floors, benches, or stands. Before wheels are put in service they should be closely inspected to make sure that they are not cracked.

"When installing a new wheel,

check the speed of the grinder shaft and choose the proper wheel which is stamped with the maximum speed at which it is to be operated. The wheel must fit freely on the shaft or spindle-they should not be forced on, nor should they be too loose. Likewise, the locking nut should be tightened only enough to hold the wheel firmly to avoid binding which would cause damage to the wheel.

"Grinders should only be used for the purpose they are designed. Side grinding should not be permitted unless specifically authorized by the manufacturer.

"Tool rests should be adjusted close to the wheel-within 1/4 inchto prevent the work from being caught between the wheel and the

"Goggles or other suitable eye protection must be worn by anyone operating a grinder. Good lighting is also important.

"The use of grinders is essential to most operations. They can, if operated correctly, be safe."

112

Table, Bureau of Labor Standards, U.S. Department of Labor

Same as, or similar to American Standard
Less restrictive than American Standard
More restrictive than American Standard
No code or standard

... The States and Safety

How state safety requirements agree with the American Standard Safety Code for power presses

NE question constantly arises when safety men get together -how can we bring about greater agreement on safety requirements among the states. Differences in state requirements make it difficult for manufacturers of machines to build standard guards into their equipment and continually complicate the problems of safety engineers in improving hazardous conditions in their industries. As a means of determining exactly what the problem is and to give data from which to work in solving it, the Department of Labor is making surveys of state safety requirements for various types of industrial machines. One of the most dangerous of these machines is the power press. Not only are presses inherently hazardous due to the nature of the machine itself but accident exposure is unusually high because of their wide use in many different branches of industry for a variety of purposes. Such diverse articles as huge steel parts of a modern automobile body and tiny gadgets used in a home kitchen are produced on presses. Material is fed into these presses in a variety of ways, according to the nature of the job. In some cases it is fed by hand; in others, an automatic or semi-automatic device is used. In many cases, reports indicate, small manufacturers either do not provide safety devices or remove them during operation. Because of the unusually urgent safety problems peculiar to the power press, this was the machine selected by the U.S. Department of Labor for the second of its surveys on state safety requirements. The first was on woodworking machinery (STDZN, March 51, p 80).

The Department's survey was made at the request of the Committee on Engineering of the President's Conference of Industrial Safety. At the request of the committee and in cooperation with the state labor departments, the Department is analyzing existing state statutes and codes to determine how adequately covered safety problems are in relation to total needs and special problems of the several states; and to determine how adequate the technical details of the regulations are. Particularly, the survey is intended to determine how well state regulations make use of recognized safety standards.

As a reference on which to base its survey, the Department of Labor chose the American Standard Safety Code for Power Presses and Foot and Hand Presses, B11.1-1948. This is recognized as a "nationally accepted and impartial" standard with which the state codes can be compared. Pre-

pared by a sectional committee under the procedure of the American Standards Association and sponsored by the National Safety Council, the standard was agreed upon by industrial safety equipment manufacturers, state and governmental departments, insurance companies, safety organizations, and employer and employee groups. Because of the variations in operating conditions-size and speed of the machine; size, thickness, and kind of pieces worked; construction of dies; required accuracy of work; skill of operators; length of run-a wide variety of guards and feeding methods was agreed upon by this committee.

The Department of Labor's analysis showed that seven states and (Continued on page 125)





Western Flectric Co

A one-piece guard encloses this slide feed assembly tool as required in American Standard B11.1-1948. An opening in the front guard permits the die slide to pass in and out under the punch holder. (Top) tool with slide feed pulled out (Bottom) same tool with slide in. A safety device is required to prevent tripping the press until die slide is in place.

Standards From Other Countries

MEMBERS of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. The titles of the standards are given here in English, but the documents themselves are in the language of the country from which they were received.

For the convenience of our readers, the standards are listed under their general UDC classifications.

621.9 Machine Tools, Tools in particular for Metal and Wood

** 00d	
FINLAND	SFS
Circular saw blades for wood	
Types of teeth	0.1.40
Flat cross-saw blades	0.1.41
Flat rip-saw blades	0.1.42
Flat cross-saw blade for	
veneer and joinery	0.1.43
Flat rip-saw blade for	
veneer and joinery	0.1.44
GERMANY	DIN
Twist drills	
Short, straight shank	338
Long, straight shank	340
With Morse taper shank	345
With large Morse taper	
shank	346
Hand reamers, unadjustable	206
Machine reamers	
Unadjustable with Morse	
taper shank	208
Unadjustable with straight	
cylindrical and square	
shanks	212
Drilling jig bushings with	
clamping screw	173
Single point cutting tools	4975/6
NETHERLANDS	N
Different types of lathe cut-	
ting tools	
High-speed steel, heavy	1359, 1397,
duty	1719
Carbide tipped	1360, 1661,
	1720
Lathe cutting tools, No-	
menclature of various types	846
POLAND	PN
3 types of knurling	M-02498
Reamers with Morse taper	
shank	M-58900
Core reamer with tapler shank	M-58903
Hand reamers	M-58907
Parallel and diagonal knurl-	
ing wheels	M-59460/1
Twist drills for copper and	
aluminum	1.59643/4/5

		Countries	
Lathe, jigs and fixtures	M-61211/ 2/3,-61301	Two sizes of forks Table knives	68 369
Two types of pliers	M-64476-	SWEDEN	
Wrenches for hexagon socket	64490		SIS
set screws	M-65046	5 standards for tableware such as knives and forks	33 51 01 thru
Plain milling cutters, right-	M-57350,	such as knives and forks	33 51 05
and left-hand	57351		
Tee-slot milling cutter	M-57616	667.9 Paints, Varnishes, La	cquers, etc.
Round dies for metric thread	M-58130	FRANCE	NF
Reamers with Morse taper shank	M-58922		INF
Adjustable reamers	M-58935	Various white pigments	T 31-001
Work-holding fixture	M-61201	ground with oil	1 31-001
Tongs for bending plastic in-		INDIA	15
sulating tubes	M-64496	Ready-mixed paint	
Side and face milling cutters	M-57472	Brushing, undercoating,	
RUMANIA	STAS	stoving, for enamels and	
		general purposes, color as	140
3-jaw universal lathe chuck Flanges for universal lathe	1655	required Spraying, undercoating,	148
chucks	1656	stoving, for enamels and	
Boring machine chuck	1657	general purposes, color as	
Main spindle nose	1661	required	149
Five standards for milling		Brushing, acid-resisting, for	
cutters	1681-1685	protection against acid	
Verification of tensile testing		fumes, color às required	159
machine by comparative	1005	Spraying, acid resisting, for	
test-piece method	1805	protection against acid	160
Hand tap for gas pipe thread	1822	fumes, color as required	160
from 1/8 in. to 4 in. Morse taper lathe arbors	1658	Brushing, matt, heat resist- ing, color as required	161
End mill, straight shank	1680	Brushing, fire resisting, sili-	101
Knife files for general use	1787	cate type, for use on wood,	
Hand taps for metric thread,		color as required	162
1-52 mm	1821	Dipping, fire resisting, for	
CHICDEN	616	gangways of coaching stock	163
SWEDEN	SIS	Brushing, for road marking,	
7 standards for different lathe		to Indian standard color	
fixtures such as adjustable		No. 356 golden yellow, and white and black	164
support blocks, retaining	98 thru 704	Thick white, for lettering	167
clips, etc. 69 Drill chuck cones and shanks	710,711	Brushing, quick drying,	
7 standards for different axes	140,114	matt, lead-free for general	
such as carpenter's splitting		purposes, to Indian stand-	
sledge-hammer axe, fire-	1511 thru	ard colors	168
man's axe	1517	Spraying, quick drying,	
Standard handles for axes	1518	matt, lead-free, for general	
SWITZERLAND	SNV	purposes, to Indian stand- ard colors	169
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Cutter adapters for milling machines having a steep	33934,	Aluminum paint, spraying,	
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Cutter adapters for milling		dual container	166
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taper and using tang-end			244040
mills	33935	IKISH S	TANDARDS
Short-cutter adapters for mill-		Varnish	10:1950
ing machines having a	92040	Knotting	16:1949
steep taper. Assembly and	33940, B1.1-3	Gold size Ready mixed oil paints	17:1949 18:1949
details Shell end mill	34340		19:1949
Metric taps, fine thread from	01010	Extender for paints White pigment for paints	21:1949
M1x0.2 to M20x1.5	34666 a	Water paint and distemper	
Metric taps, fine thread from		for interior use	22:1949
M22x1 to M52x3	34667 a		
		MEXICO	DGN
642 Meals, Table Service		Minimum pigment	K 42-1951
DENMARK	DS	NETHERLANDS	N
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Wax furniture polish (solvent	3A83	POLAND	PN	SPAIN	UN
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Standard specification for metal polish (not suitable		Analysis of ferro-chromium alloys	H-04206	screws, bolts, springs and other machine parts	1041 th
for silver and plated ware) Specification for wax boot	264-1951	Analysis of ferro-tungsten al- loys	H-04207	Graphical signs for surface finish	103
polish	257-1950	Forged steel pieces, rough:	H-94304,	SWITZERLAND	VS
Wax stove polish	258-1950	allowance for machining Marking of steel products	94305 H-01102	Method of dimensioning on	10324
URUGUAY Dry hiding power of paint,	UNIT	Turning and breaking tests of steel		technical drawings	B1.2
tests for	80-51	Hot-rolled half-round tool- steel bars	H-04508/9	778 Applications of Photo	graphy
			H-93226	DENMARK	
669 Metallurgy		RUMANIA	STAS	Lantern slides	70
AUSTRIA	ONORM	Steel bars for cutting files Alloy steel castings, General	1669 1773	FRANCE	
Steel for boiler plates	M 3122	Semi-finished brass products. Section bars for railroad	11/13	Mounting the negative 35-mm	
DENMARK	DS	car window frames	1594	sound films for copying pur- poses. General	S 24-00
Unalloyed hot-rolled carbon steel, general	12010	Zinc concentrate and ag- glomerate, method of analy-		Special printing tricks ("ef-	2 - 10
Comparative table of foreign		sis	1611	fects"). Nomenclature and designation	S 25-00
and Danish standards for steel	12010, Suppl.	Lead concentrate	1692	35-mm projectors, lenses	5 26-00
FRANCE		Carbon tool steel Ferro-manganese, method of	1700	35-mm and 16-mm sound pro-	
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Rail "Vignole" and fishplates, cutting and drilling of—	F 50-012	Hot-rolled steel sections for		jectors. Photoelectric cells for sound head	S 26-06
Table of chemical analysis of		metal saws Rolled steel section for horse	1723	Specifications for testing	e 99.00
ferro-silicon alloys Zinc alloys in ingots	A 06-200 A 55-102	shoes	1825	sound recording equipment Photometric calibration of	S 28-00
GERMANY	DIN	SPAIN	UNE	camera lenses Measurement of optical char-	S 28-00
Corrosion of metals, concepts	50900	Forged and rolled steel prod-		acteristics of 35-mm 16-mm	0.00.00
-beams, structural	1025,B1.1,2	ucts semifinished and fin- ished, definitions and clas-		projectors	S 28-00
Channels, structural Equal angles, structural	1026,B1.1 1028,B1.1,2	sification	36501	SPAIN	UN
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for pipes	1746	content Determination of nickel	7048	35-mm, 16 teeth, projector	
Malleable aluminum alloy for embossing	1749	content Rolled steel plates, bands and	7049 36551-	feed sprocket 35-mm, 32 teeth, projector	1552
Rolled steel channels (round edged). Dimensions and		strips	36553	feed sprocket	1552
static values	1026,B1.1	Copper alloys. Definitions. Designations	37102	35-mm, 24 teeth, projector feed sprocket	1552
GREAT BRITAIN	BS	Structural steel. Determina- tion of phosphor content	7029	35-mm, 16 teeth, projector intermittent sprocket	1552
Carbon steel castings for sur- face hardening	1760:1951	son or prospine content	1022	35-mm, 16 teeth, feed sprocket for raw film processing	
fethods for the analysis of		744 Technical Drawings		apparatus	1553:
raw copper	1800:1951	ARGENTINA	IRAM	35-mm, 32 teeth, feed sprocket for raw film processing	
INDIA		Graphical symbols for rolled	4524	apparatus	15533
fild steel wire (tentative specification)	280	shape	4534	35-mm, 24 teeth, feed sprocket for raw film processing	
Vaval brase rods, bars and		NETHERLANDS	N	apparatus	1553
	291	Elevations, Cross section. Con-		Dimensions of principal com-	
sections Brass ingots and castings	292	tour lines on surveying		ponent parts of projectors	15560

How to Charge Unusual Injuries

THE Committee of Judges of ASA Sectional Committee Z16 on accident statistics have recently handed down the following interpretations. The American Standard Method of Compiling Industrial Injury Rates, Z16.1-1945, offers generally accepted rules for keeping track of a company's safety record.

Interpretations of the standard can be obtained by sending the facts on doubtful cases of injuries due to unusual accidents to the American Standards Association. Reprints of all the published decisions can also be obtained from ASA.

Case 160. A city reported that an Election Board member was hired for one day at each public election. On the election day in question the employee was leaving the job to go out to lunch. While descending stairs the employee misjudged her step and fell. The stairway was clear of obstructions and well lighted. This accident took place on city property and resulted in a broken nose, bruised arm, and scuffed knee. The employee was taken to a hospital for first aid and she then went to her own doctor for further treatment. Since this was only a one-day job and otherwise the employee was a housewife, the city was unable to determine when she could regularly have returned to work. The city was also unable to obtain a report from the attending doctor concerning the length of disability. It was their past experience that on this type of injury an employee would usually lose one to five days from work. The city wished to know whether such a case should be included in their industrial injury rates and, if so, how to compute the time charge for the injury.

The committee decided that this injury should be included in the industrial injury rates for the city. The committee did not name any exact number of days which should be used as a time charge, but suggested that if it was impossible to obtain a doctor's report as to when this employee could have returned to work, then the best estimate of a layman should be used.

Case 161. A local safety council wrote that one of the contestants in their state-wide industrial safety contest had telephoned them concerning a death which occurred in their plant. A watchman had reported for duty on the night shift in apparent good health. The next morning, this watchman was found dead. It was believed that he had died of natural causes from a coronary thrombosis. The question was whether or not this case should

be considered as a lost-time injury.

The committee asked for further details; they were advised that since the watchman was alone at the time of his death it was difficult to obtain definite facts regarding it. The employee had reported for duty at 7 r.m. on a Saturday evening,—a very quiet and slow evening because there was to be no work at the plant the following day. His work as a watchman entailed no laborious work at all. The watchman was found at 12 midnight on a sofa by a watchman who had reported to relieve him. The company had no record of a pre-existing condition because they did not require pre-employment physical examinations.

The committee discussed this case quite thoroughly and came to the conclusion that it did not have enough facts to decide the case definitely. The committee called attention to 3.7 of the standard which states that in questionable cases the opinion of the doctor employed by the company should be given consideration. It was observed that no report from any doctor, coroner, or medical examiner had been provided. In order for the committee to make a definite decision, medical opinion should be presented as to whether there were any circumstances which related to this man's work which might have aggravated his death or hastened the time thereof. Since this additional information was not available, the case was closed without

Case 162. An employee of a sales organization specialized in the promotional end of selling. Some of his time was spent in the office and the rest out in the sales territory. On a Saturday the employee and other members of his department vorked until late in the evening. Ordinarily after work the employee took home the company coupe that was assigned to him. He would have done so on this particular evening if it were not for the fact that he had worked late, and that he went with one of the other people in the office, who also had worked late that evening, directly to the other's home for a visit. This visit was not for company business.

The following day, Sunday, the employee returned to the plant to pick up his company car which he planned to use the following day. Monday. On his way home from the plant, his car was struck by another car that had gone through a red light at a traffic signal intersection. The driver of the other car was clearly in the wrong and his insurance company paid for all the damage that occurred due to the accident. The accident also resulted in a disabling injury of one week's duration to the driver of the company car. In taking the car to his home, the injured was driving by the shortest route possible, not having detoured for any personal reasons.

The arrangement of leaving his car at the plant on Saturday and picking it up Sunday to take it to his home had the approval of his superiors. If he had not had the appointment at his friend's home on Saturday evening, the injured man would have taken the car home with him on that day.

The question was whether or not this injury should be considered an industrial

The committee decided that this case should be included in the injury rates. The members, in commenting, suggested that this employee was performing one of his regular duties in taking the company car from the plant to his home. The fact that this occurred on a Sunday, outside of regular working hours, did not affect the situation in the minds of the members, since this employee's superiors had approved his plan of taking the car on Sunday.

Case 163. An employee worked on the night shift from midnight until 8 a.M. In the morning, while leaving the plant, he informed his supervisor that he was bitten by a mosquito while working on the previous shift. He was advised to go to the doctor for examination. The doctor gave him an injection of penicillin and told him to report back the next day. The injection made the employee nauseous, his arm became sore, and he did not report for work on the midnight shift. His shift was off the following 4 days; he returned to work on the fifth day.

The employee's supervisor stated that he had not noticed any mosquitos in the building this year. The mosquito conditions at the plant were, insofar as the company could determine, about the same as those which existed in the locality in which the employee lived.

It was further reported that this employee stayed off from work both because the injection made him sick and also because the arm, bitten by mosquitos, was sore.

The committee decided that this injury should not be included in the rates. The members commented that there was some question as to whether time was lost because of the sore arm from the mosquito bite or because of nausea from a penicillin injection, but they concluded that the time was lost because of nausea; therefore, 3.6.1 of the standard applied to this case.

A company reported four cases as follows:

Case 164. A worker finished his regular work-pay shift at 4:30 P.M., clocking through a time clock alley on his worksite area, which was 30 miles inside a security-controlled, fenced project area. He boarded a company bus at the clock alley, en route for a company bus terminal located outside the perimeter fence.

Beginning at 4:31 P.M. he was on a travel-pay status, covering the 45-minute bus running time. No charge is made for the transportation. En route, the bus collided with another vehicle, and this worker sustained injury involving several weeks of time loss. Is the injury reportable? Case 165. Same circumstances as Case 164, except for the manner of injury. In this instance, while en route to the company bus lot outside the restricted area, and while on travel-pay status, the injured attempted to move from one seat in the bus to another. This occurred at the exact moment when the bus was making a turn in the highway with the result that the injured's knee was wrenched and several weeks of lost time followed. Is the accident tabulatable?

Case 166. Same preliminary circumstances as Cases 164 and 165 except that no injury occurred until the bus came to a full stop at the company bus lot. The injured, in leaving the bus, stepped from the step to the ground and, in so doing, wrenched his knee. There was no fault due to unsafe surface, but only one due to the injured's inattention or lack of balance. Is the injury reportable?

Case 167. The same circumstances as in Case 164 except that the injured in this case disembarked from a bus at the company bus lot, and walked about 20 feet, then stepped on a walnut-sized stone, turning and spraining his ankle. Lost time resulted. The injured was still on "the employers' premises" and receiving travel-pay at the time of the mishap. Is this reportable?

The committee decided that all four of these injuries (cases 164 through 167) should be included in the industrial injury rates. The members commented that paragraph 2.1.1 of the standard states that time spent before or after working hours in going to the place of employment from the entrance to plant property or from the place of employment to the exit of plant property shall be considered as being within the course of employment. The members believed that each of these cases occurred on plant property. They also called attention to the fact that the employees were being paid for the time during which the injuries occurred.

CASE 168. An employee had been connecting a 1/4-inch copper tubing to an instrument at the rear of a large instrument panel. He was standing on the top step of a two-foot stepladder while doing this work and at the completion of his job he backed down the steps in a manner similar to descending a stepladder. As his right foot struck the floor he saw something from the corner of his right eye, later determined to be a nearby valve. He ducked his head but did not strike any thing. The employee alleged that he felt something similar to a shock at this time but claimed he did not suffer any pain that evening. The next morning his neck was somewhat sore and stiff and he reported to the dispensary where he was given heat treatment with an ultra violet lamp. By noon his neck was swollen and he reported back to the dispensary and was sent to an orthopedic doctor who sent him to the hospital for observation. It was found that he had a slipped facet of the cervical spine. He lost a total of 6 days



NAM Endorses "Voluntary Standards"

A MERICAN industry stands solidly back of voluntary standardization. This was made clear when the Board of Directors of the National Association of Manufacturers endorsed the policy statement of the Chamber of Commerce of the United States. The NAM Board acted on January 25, 1952. Its policy on "Voluntary Standardization" was announced by NAM in the following statement:

"The National Association of Manufacturers heartily endorses the policy statement of the Chamber of Commerce on voluntary standardization which

"The Chamber of Commerce of the United States commends the many companies that have intelligently promoted standardization programs in their own operations and participate in the organized development of standards through their trade associations, technical societies and national standards coordinating groups. We urge others to examine the possibilities of improved industrial standards for achieving efficient, safe, and healthful production in the interest of all.

"Voluntary standards, developed by industry in cooperation with all interests concerned, have made a major contribution to orderly industrial development without impairing the flexibility of enterprise or the generally desirable diversity of individual products available to the public. Adoption of industrial standards through voluntary efforts free of government control has resulted in increased production at lower cost, providing more and better things for more people.

"Although substantial progress has been made in the development of voluntary standards, industry must intensify these efforts in order to achieve the best use of the nation's industrial vapacity."

from work. A company investigation indicated that no accident had occurred and this injury might be the result of a personal physical condition. There were no witnesses to the incident and while the employee alleged that it was noticed during the course of employment, the company felt that it did not necessarily arise out of employment. The employee was not carrying any material at the time and did not claim to have struck any object.

The committee decided that the action of the injured employee in ducking his head to avoid contact with the valve could have resulted in the injury and therefore the case should be counted in the industrial injury rates on the basis that it arose out of and in the course of employment.

Case 169. A company reported that an employee, during regular working hours, was walking down a corridor when he collapsed and fell, striking his elbow, resulting in a loss of 10 days from work. This employee had been a spastic case for approximately 3 years. There had been a gradual diminution in his muscular coordination. During this period, initially he walked with some limp: at a later stage he employed a cane; and for approximately 1½ years, he had walked with crutches. His ability to move with crutches had been diminishing recently and it would appear.

from the way he swung his legs as he walked, that he had considerable difficulty in moving from one location to another as required.

About six months before, in order to make it as easy as possible for this employee, his work had been changed from one department where the wash room facilities were difficult to reach, to another department where the wash room facilities were more easily accessible. This new work location was also closer to the parking lot, enabling him to get to and from his car without difficulty.

The floor in the corridor was asphalt tile 9-in. blocks in excellent condition, not waxed. The walls of the corridor were vitrified tile. No defects in the floor were observed at the point where the man fell or at any other location in the building.

The company contended that the employee simply collapsed due to the lack of muscular coordination brought on by the inroads of an increasing spastic condition, and that this should not be classed as a disabling injury in view of the fact that there was no cause for the accident other than the man's physical condition.

The committee decided that this case should not be considered an industrial injury and should not be included in the rates. This decision was based on the understanding that the fall was due entirely to his physical deficiency.

AMERICAN STANDARDS

Status as of March 7, 1952

Legend

Standards Council.-Approval by Standards Council is final approval as American Standard; usually requires 4 weeks.

Board of Review .- Acts of Standards Council and gives final approval as American Standard; action usually requires 2 weeks.

Correlating Committee.-Approve standards to send to Standards Council or Board of Review for final action; approval by correlating committee usually takes 4 weeks.

Consumer

In Standards Council-

Standards for Rayon Fabrics, and Test Methods for Rayon Rabrics, L.22 Sponsor: National Retail Dry Goods Association

In Correlating Committee-

Specifications for Chip Soap (Revision of ASTM D 496-39; ASA K60.1-1948) Specifications for Powdered Soap (Nonalkaline Soap Powder) (Revision of

ASTM D 498-39; ASA K60.3-1948) Specifications for Liquid Toilet Soap (Revision of ASTM D 799-45; ASA K60.14-1948)

Sponsor: American Society for Testing Materials

Manufacturers once produced 1400 different types of steel poles for trolley wires. Committees working under ASA procedure have reduced the number to 16.

Electrical

In Correlating Committee-

Methods of Testing Electron Tubes, (IRE 7.52; ASA C60.5)

Measurement of Direct Interelectrode Capacitance (RTMA Std ET-109-A; NEMA Pub 505-A)

Sponsor: Joint Electron Tube Engineering Council

Submitted to ASA for Approval-

Pure-Tone Audiometers for Screening Purposes, Z24.12 Sponsor: Acoustical Society of America

Highway Traffic

American Standard Just Published-

Adjustable Face Traffic Control Signal Head Standards, D10.1-1951 (Revision of D10.1-1942) \$.50 Sponsor: Institute of Traffic Engineers

Horticulture

In Correlating Committee-

Nursery Stock, Z60.1 (Revision of Z60.1-19493

Sponsor: American Association of Nurserymen

Standards engineers estimate that a 1950 Ford today would cost about \$50,000 if built by hand without the standardization techniques of mass production and interchangeable parts.

Mechanical

In Board of Review-

Accuracy of Engine and Tool Room Lathes, B5.16

Sponsors: American Society of Mechanical Engineers: Society of Automotive Engineers; Metal Cutting Tool Institute; National Machine Tool Builders Association

Square and Hexagon Bolts and Nuts, B18.2 (Revision of B18.2-1941)

Round Unslotted Head Bolts, B18.5 (Revision of B18.5-1939) Sponsors: American Society of Mechani-

cal Engineers; Society of Automotive Engineers

In Correlating Committee-

Ring-Joint Gaskets and Grooves for Steel Pipe Flanges, B16.20

Sponsors: American Society of Mechanical Engineers: Heating, Piping, and Air Conditioning Contractors National Assn: Manufacturers Standardization Society of the Valve and Fittings Industry

Stainless Steel Pipe, B36.19 Sponsors: American Society of Mechanical Engineers; American Society for Testing Materials

Preferred Thicknesses for Uncoated Thin Flat Metals (Under 0.250 In.), B32.1 (Revision of B32.1-1941)

Sponsors: American Society of Mechanical Engineers: Society of Automotive Engineers

Reaffirmation Requested-

Cast-Iron Pipe Flanges and Flanged Fittings, 800 Lb Hydraulic Pressure, B16b1-

Cast-Iron Pipe Flanges and Fittings (For Maximum WSP of 25 Lb), B16b2-1931 Steel Socket Welding Fittings, B16.11-1946 Brass or Bronze Screwed Fittings, B16.15-1947

Cast-Iron Flanges and Fittings for Refrigerant Piping (Class 300), B16.16-1948 Requested by: American Society of Mechanical Engineers

Withdrawal Requested-

Cast-Iron Long Turn Sprinkler Fittings, B16g-1929 R 1947 Requested by: American Society of Mechanical Engineers; Heating, Piping, and Air Conditioning Contractors National Assn: Manufacturers Standardization Society of the Valve and Fittings Industry

Motion Picture

16-Mm Motion Picture Projection Reels, PH22.11 (Revision of Z22.11-1941, Z52.33-1945)

Splices for 16-Mm Motion Picture Films for Projection, PH22.24 (Revision of Z22.24-1941, Z22.25-1941, Z52.20-1944) Splices for 8-Mm Motion Picture Films,

PH22 77 Sponsor: Society of Motion Picture and

Television Engineers

Photography

American Standards Reaffirmed-

Dimensions of Front Lens Mounts for Cameras, Z38.4.10-1944 R1952

Specifications for Printing Frames. Z38,7.11-1944 R1952

Method for Determining Resolving Power of Lenses for Projectors for 35-M Slidefilm and 2- x 2-Inch Series, Z38.7.16-1947 R1952 Requested by: Photographic Standards

(Correlating) Committee

In Correlating Committee-

Spectral Densities of Three-Component subtractive Color Films, PH2 Sponsor: Photographic Standards (Cor-

relating) Committee

Safety

In Correlating Committee-

Safety Code for Mechanical Power Transmission Apparatus (Revision of B15-

Sponsors: Association of Casualty and Surety Companies, Accident Prevention Department: International Association of Governmental Labor Officials

In Board of Review-

Rubber Insulating Gloves, J6.6 (Revision of ASTM D 120-40; ASA C59.12-1942) Sponsor: American Society for Testing Materials

An average saving of \$50 per dwelling would be possible in an average community if the plumbing were designed according to the requirements of a uniform plumbing code. Lack of such requirements has caused variations in sizing pipes of as much as 150 percent. These variations cause producers to manufacture many different sizes and distributors to carry a heavy inventory.

What's New on American Standard Projects

Hydraulic Cements, AI-

Sponsor: American Society for Testing Materials

Miles N. Clair, president, Thompson and Lichtner Co., Boston, Mass, is the new chairman of Sectional Committee Al on Hydraulic Cements. As president of this well known testing and research agency in the engineering materials and processes field, Mr Clair has been very active in the standardization of building materials. He is a member of ASA's Building Code and Construction Standards Correlating Committee, the American Concrete Institute's committee on Building Code Requirements for Reinforced Concrete, as well as committees of the American Society of Civil Engineers and the American Society for Testing Materials.

Small Tools and Machine Tool Elements, B5-

Sponsors: American Society of Mechanical Engineers; National Machine Tool Builders Association; Metal Cutting Tool Institute; Society of Automotive Engineers

Sectional Committee on Small Tools and Machine Tool Elements (B5) has circulated for letter-ballot vote a proposed American Standard on Mounting Dimensions of Lubricating and Coolant Pumps for Machine Tools. In preparing the draft, the committee has worked in cooperation with the National Electrical Manufacturers Association on questions where motor mounting dimensions were concerned. The proposed standard covers mounting dimensions both for the type of pump that is attached directly to the machine tools and also the type of pump attached to motors which, in turn, are attached to the machine tools. "Every attention has been given to establish dimensions that encourage improvement and further development in both pumps and motors," the Foreword to the proposal declares.

National Electrical Code, CI-

Sponsor: National Fire Protection Association

Interpretation number 381 issued

by the Electrical Section, National Fire Prevention Association (Sectional Committee C1 on the National Electrical Code) refers to sections 2115, 2116, and 2124 on Capacity and Circuit Requirements:

Question: Is it the intent of paragraph b of Section 2124 that all of the rooms named therein must be wired for electricity if electrical service is supplied to a dwelling?

Answer: No, assuming that all provisions of Sections 2115 and 2116 are taken into consideration in computing service, feeder, and branch circuit capacity for the dwelling as a whole.

Surface Qualities, B46-

Sponsor: American Society of Mechanical Engineers; Society of Automotive Engineers

Sectional Committee on Classification and Designation of Surface Qualities (B46) met in the Engineering Societies Building, New York, N. Y., Feb. 14, 1952. Louis F. Polk, President, Sheffield Corporation, Dayton, Ohio, was presented as chairman of the committee. Mr. Polk was graduated from Miami University with an AB degree in 1926. He is co-author of "Dimensional Control," and author of numerous technical articles. He is active in several professional and industrial organizations.

The committee authorized the appointment of three subcommittees: (1) to establish numerical values of roughness width specifications, (2) to review and revise the existing standard (B46.1—1947) on roughness to bring it up to date with current practice, and (3) to investigate the need for and to propose a standard on surface roughness instrumentation characteristics.

Electric Lamps, C78-

Sponsor: Electrical Standards Committee

The sixth draft of the proposed American Standard Specification for Fluorescent Lamp Starters has been sent to letter ballot of the C78 committee. If approved, it will be published and distributed for trial and criticism as a proposed American Standard.

Electrical Measuring Instruments, C39—

Sponsor: Electrical Standards Committee

A letter ballot is now being circulated to the C39 committee on approval of the proposed American Standard for Direct-Acting Electrical Recording Instruments. If approved it will be sent to the sponsor for submittal to the American Standards Association.

Safety Code Correlating Commit-

Officers and members of the Executive Committee of the SCCC have been elected for 1952. Myron Park Davis has been re-elected as chairman and William P. Yant, director of research, Mine Safety Appliance Co, Pittsburgh, Pa, is the new vice-chairman. Newly elected members of the executive committee are: Arthur S. Kelly, coordinator, Industrial Safety Division, National Safety Council, Chicago, Ill, and Oscar Lehman, safety engineer, Chrysler Corp, Detroit, Mich.

John A. Dickinson, Standards Division, National Bureau of Standards, Washington, D. C.; Elliot P. Knight, superintendent, Engineering Department, The Employers' Group, Boston, Mass; and R. C. Sogge, manager, Standards Division, Executive Department, General Electric Co, Schenectady, N. Y., have been re-elected to the Executive Committee.

Safety Code for Woodworking Machinery, OI-

Sponsors: Accident Prevention Department, Association of Casualty and Surety Companies; International Association of Governmental Labor Officials

The sectional committee met March 18 under the leadership of a new chairman and secretary to consider suggestions for revision of the 1944 edition of the standard. Edward F. Steinman, Safety Engineering Departmen, U.S. Fidelity and Guarantee Company, is the committee's new chairman. Robert Hogopian, Accident Prevention Department, Association of Casualty and Surety Companies, is the new secretary.

Motor Oil Cans-

Standardization of the diameter and height of motor oil cans is being undertaken in a new project just approved by ASA. Interchangeable dimensions will facilitate the use of filling and closing machinery for handling oil cans, according to the Joint Container Committee of the American Petroleum Institute and the National Lubricating Grease Institute. which requested the project. A set of proposed American Standard dimensions for 1-quart, 5-quart, and 1- gallon cans is being prepared by a special committee. Members of this special committee are: R. Chester Reed. The Texas Company, chairman; A. R. Dismukes, Gulf Oil Corporation; F. Norton Landon, Sun Oil Company; and William J. Wood. Atlantic Refining Company.

Standards already adopted by the Petroleum Packaging Committee of the Packaging Institute are being recommended for the special committee's consideration.

Drawing and Drafting Practice, Y14-

Sponsors: American Society of Mechanical Engineers; American Society of Engineering Education

A tentative draft of a Proposed American Standard for Pictorial Drawing was circulated for comment early in December to a selected list of individuals. The suggestions received will form the basis for a redraft to be submitted to the sectional committee. The comment period closes on March 7, 1952.

A French proposal for international standardization of methods of representing surface roughness on drawings has been circulated to the sponsors and the officers of Committee Y14. In discussing the problem, the French proposal comments: "A real world standard must be of an extremely general character, independent from the measuring methods used and from the time and place where it was done. This standard must only fix the geometrical limits of roughness within the 'roughness tolerances.' . . It must give full freedom in choosing the method of measurement or the method of verification of those limits."

Acoustical Measurements and Terminology, Z24—

Sponsor: Acoustical Society of America

A proposed American Standard for Speech Audiometers has just been sent to letter ballot of the Z24 committee. The purpose of this work is explained in the proposed standard as follows:

"Several diagnostic tests of hearing are based on the ability of a listener correctly to repeat or write down words or sentences delivered to him at known acoustic levels. To standardize these tests of hearing it is necessary to specify both the test material, i.e., the words or sentences, their manner of presentation, the acoustic levels to be employed, etc., and also the apparatus to be employed for the presentation.

"The normal threshold for speech, sometimes known as the 'speech reception threshold,' depends not only on the average sensitivity of normal human ears but also on the characteristics of the test material employed. the voice of the speaker and the electro-acoustic characteristics of the speech audiometer. One objective of the present specification is to standardize the latter so that when the test material, the characteristics of the recording system, etc., are also specified, a value for the normal threshold for speech, in decibels relative to a standard acoustic reference level, can be determined experimentally. Until such standardization is completed, the normal threshold for speech must be determined empirically for each voice and each recording and for each form of speech test.

"This specification deals only with the apparatus for delivering speech tests to the listener, with the general objectives (a) that the speech sounds that reach the listener's ear shall be a faithful reproduction, within specified limits of tolerance, of the original spoken or recorded material, and (b) that the sound pressure levels at

which the speech sounds reach the listener's ear shall be known and controllable within specified limits. Such an apparatus is designated a 'speech audiometer for diagnostic purposes.' With such an instrument and employing appropriate spoken or recorded material it is possible to determine both the 'hearing loss for speech' and the 'discrimination loss for speech.' The 'speech audiometer for diagnostic purposes' which is the subject of this specification is intended for testing one individual at a time and should be distinguished from 'screening speech audiometers' designed for rapid approximate testing of large groups of persons simultaneously."

Safety Glass, Z26-

Sponsors: National Bureau of Standards, U. S. Department of Commerce; Association of Casualty and Surety Companies, Accident Prevention Department.

Robert H. Harleston, Jr, Traffic Engineer, Accident Prevention Department, Association of Casualty and Surety Companies, New York, has just been named secretary of the sectional committee on specifications and methods of test for safety glass. Harold F. Hammond, Assistant Engineer, Transportation Department, U. S. Chamber of Commerce, Washington, D. C., continues as chairman.

Sound Recording, Z56-

Sponsor: Audio Engineering Society

Neal McNaughten, engineering director of the National Association of Radio-Television Broadcasters, was named chairman of the committee at a meeting February 13.

The committee was reactivated on the basis of the need for U.S. coordination of requirements in international standardization. This is being carried out by the International Radio Consultative Committee through its broadcasting study group. Mr Me-Naughten is also chairman of this group.

Since its reactivation the committee is being sponsored by the Audio Engineering Society. Previously it functioned under the joint auspices of the Institute of Radio Engineers and the Society of Motion Picture and Television Engineers.



International Meetings in New York

June 9 - 26

A RRANGEMENTS for both technical activities and social events for the two-week meeting of the International Organization for Standardization in June are rapidly shaping up in final form. Columbia University, New York, is the scene of the meetings. The American Standards Association is acting as host.

Highlight of the ceremonies will be a banquet for delegates prior to the ISO General Assembly. This will be given at The Waldorf-Astoria, Thursday evening, June 19. The delegates will hear Willard L. Thorp, Under Secretary of State for Economic Affairs, and Albert Caquot, noted French engineer and industrialist, president of ISO. Roger E. Gay, president of The Bristol Brass Corporation, and president of the American Standards Association, will preside.

The General Assembly, holding its triennial meeting this year, is expected to bring to New York delegates from most of the national standards organizations that are ISO members. Thirty-three countries are represented in ISO. The Assembly will act on questions of policy and procedure that are referred to it by its executive body, the ISO Council. The Council will also meet this year to act on questions concerning the constitution, election of officers, membership, finances, and general policy.

Technical problems of international concern will come up for discussion at meetings of 16 technical committees and subcommittees. These will include standards for bolts and nuts, ball and roller bearings, iron and steel, machine tools, mica, petroleum products, and textiles. Technical committees meeting on these subjects are attempting to reach agreements that will eliminate conflicts in national standards of the different countries.

General headquarters for the meetings are to be at Columbia University's Fayerweather Hall. ASA will maintain a headquarters office and press facilities in the room adjacent to the general headquarters lounge in Room 301. The ISO General Secretary's office will be located on the mezzanine of the lounge.

The proceedings of the ISO Council and the technical committees will be covered by consecutive translations.

At the meeting of the General Assembly on June 20, each delegate will have an individual lightweight radio receiving set with earphones. On this instrument he may tune in French, English, or Russian translations of the speaker's words, made at the time he is talking and can still move freely about the auditorium. This is known as the International Business Machines Wireless

Translating System. The IBM Corporation has donated the use of the sets for the ISO General Assembly.

Special events for delegates and their families include a reception and welcoming luncheon at the Men's Faculty Club Monday noon, June 9. and a luncheon for the ISO Council Monday June 16. Plant visits, shopping tours, sightseeing tours, and organized visits to other points of interest are scheduled. These include an all-day tour of the Hudson River Valley to West Point and Hyde Park; a tour of the New York Times; a museum tour; Radio City tour; a baseball game: a fashion show; the United Nations building: a visit to nearby automobile plants: a candy plant; a large department store; and a sightseeing trip of New York Har-

Members of ISO are the national standards organizations of the following countries:

Australia	Netherlands
Austria	New Zealand
Belgium	Norway
Brazil	Pakistan
Canada	Poland
Chile	Portugal
Czechoslovakia	Rumania
Denmark	Spain
Finland	Sweden
France	Switzerland
Germany	Union of South Africa
Hungary	United Kingdom
India	Uruguay
Ireland	USA
Israel	USSR
Italy	Yugoslavia
Mexico	

ISO Meetings

Subject	ISO No.	Secretariat	Date
Ball and Roller Bearings	ISO/TC 4	Sweden	16-19
Radial Bearings	ISO/TC 4/SCI	Switzerland	23-24
Taper Roller Bearings	ISO/TC 4/SC2	USA	25-26
Cast Iron and Cast Steel	ISO/TC 25	United Kingdom	9-11
Cinematography	ISO/TC 36	USA	9-10
Iron and Steel	ISO/TC 17	United Kingdom	9.12
Lac (with ASTM meetings)	ISO/TC 50	India	23-25
Limits and Fits	ISO/TC 3/SCI	France	16-19
Machine Tools	ISO/TC 39	France	11-13
Marks Indicating Conformity			
with Standards	ISO/TC 73	France	14
Mica	150/TC 56	India	9-11
Petroleum Products	ISO/TC 28	USA	12-14
Preferred Numbers	ISO/TC 19	France	9-10
Screw Threads	ISO/TC I	Sweden	11-14
Textiles			
Yarn Testing	ISO/TC 38/SC5	USA	13-16
Shrinkage of Fabrics in			
Washing	ISO/TC 38/SC2	USA	13-16

Technical committees of the International Organization for Standardization are meeting in New York in June as listed above.

. G. L. McCain of the Chrysler Corporation is author of a thoroughgoing discussion of involute splines published in the SAE Quarterly Transactions, Vol 5, No. 4, October 1951. The paper discusses the history of the American Standard for Involute Splines, B5.15-1950, and shows how and why the standard includes the requirements it does. In addition, Mr McCain presents tables with data and discussions that may be applied in the engineering of experimental or custom-built parts where gages and production checking means are not available.

• • The Sixth Annual Convention of the American Society for Quality Control is being held in Syracuse, New York, May 22-24, 1952. The Society expects a large attendance due in part to the greatly increased use of the techniques of Statistical Quality Control demanded by Armed Forces Procurement agencies. This has aroused much interest among manufacturing concerns, the Society declares.

The program will provide technical discussions and papers in the following fields:

> Aircraft and Aircraft Industries Automotive Die Stamping Electronics Gauging and Gauge Laboratory Mathematical Statistics Precision Manufacture Receiving & Inprocess Inspection Textiles and Textile Machinery Armed Forces Procurement Chemical Education Food Management Office and Accounting Pulp and Paper Steel Foundry and Fabricating Vendor Certification

Exhibits by many of the country's foremost manufacturers will show important phases of quality control activities in their operations. Outstanding gauge companies will display the latest in gauging equipment.

Technical committees composed of representatives of the particular industry or occupation have been formed by the Society in a number of the fields listed above.

One of these, the Electronics Tech-



This Month's Standards Personality...

Dr W. R. G. Baker, vice-president and general manager of the Electronics Division, General Electric Company, is this year's recipient of the radio and television profession's top award. This is the Institute of Radio Engineers' Medal of Honor, granted Dr Baker "in recognition of his outstanding direction of scientific and engineering projects; for his statesmanship in reconciling conflicting viewpoints and obtaining cooperative effort; and for his service to the Institute."

In standardization the leadership for which Dr Baker was cited has brought him recognition and given him responsibility for standards on a national level. He is a vice-chairman of the American Standards Association's Electrical Standards Committee, in charge of all American Standards for electrical equipment, power, and communications. As chairman of ESC's Electronics and Communications Division, he heads this phase of the program. Under Dr Baker's direction as chairman of the National Television Committee, standards for monochrome telecasting were developed, recommended, and adopted by the Federal Comunications Commission. As Director of Engineering for the Radio-Television Manufacturers Association, he is actively engaged in coordinating the work of the industry on color television. Under his supervision as chairman of the Radio Technical Planning Board, recommendations for frequency allocations of all broadcasting services were formulated. In IRE, Dr Baker served as president in 1947, and as a director in 1940 and again in 1946-1950. He was Standards Coordinator during 1948 to 1950, and has served on numerous IRE committees.

His career with General Electric started in 1917 when he joined the General Electric's Research Laboratory, to develop and test radio apparatus for aircraft, submarines, captive balloons, torpedo boats, destroyers, and battleships. This job soon expanded into design of all radio products. These were the early days of radio, and Dr Baker supervised the design of pioneer broadcasting stations WGY in Schenectady, KOA in Denver, and KGO in Oakland, as well as the Schenectady radio developmental laboratory. He has been vice-president of GE since 1941, and his Electronics Department is now one of the nine GE operating departments, producer of radio, radar, television, and similar equipment in the rapidly expanding electronics industry.

nical Committee, has focussed its attention recently on problems of standard quality criteria for mass-produced electronic parts. The aim of this study is to provide uniform quality standards throughout the industry, acceptable to both vendor and purchaser, beginning with such items as resistors, condensers, tubes, audio transformers, power transformers of less than 1,000 watts, and other such fundamental electronic components,

the Quality Control Society explains.

The standard used would be based on the statistical concepts of a recognized and proved sampling plan similar to that incorporated in Military Standard 105A or the plan proposed by the RTMA, R12 Committee. It is proposed that the vendor issue an outgoing inspection certificate covering all characteristics which will be accepted by the purchaser without incoming inspection. This should re-

sult in a drastic reduction of inspection costs and in increased confidence between the buyer and seller. Obviously, free exchange of information or process averages of observed defects must be anticipated.

To investigate the feasibility of this plan, the Committee submitted a questionnaire to a sample of the electronics industry selected at random. The replies indicated such general interest in the proposal that the Society has scheduled a portion of its convention program in Syracuse for the presentation and discussion of this idea in detail. Meanwhile, the Committee held a meeting in New York early in March 1952, with representatives of those organizations which answered the questionnaire to select subcommittees to formulate plans for the various components.

On the Speaker's Platform . . .

Roger E. Gay, President, The Bristol Brass Corporation, and president of the American Standards Association, spoke on "The Part of Standards in Better Customer Relations" and Dr. John Gaillard, Mechanical Engineer of the American Standards Association, talked on "The Place of the Tool Engineer in Company Standardization", at the meeting of the American Society of Tool Engineers in Chicago, March 17.

A number of talks on safety are scheduled for the next two months. Henry Lamb, Safety Engineer of the American Standards Association, is speaking on how American Safety Standards can help the industrial hygienist at the Greater New York Safety Convention and Exposition in New York April 3. The session at which Mr Lamb will speak will be devoted to the engineering aspects of industrial hygiene.

Mr Lamb will also address the Fifth Annual Engineering Institute on Industrial Safety, to be held April 8-15, sponsored by the Illinois Chapters of the American Society of Safety Engineers and the College of Engineering of the University of Illinois. He will speak on the general subject of American Safety Standards.

On May 16, Mr Lamb is scheduled to speak at Richmond, Virginia, before the Virginia State-wide Safety Conference. His subject will be "Safety for Small Plants."

On May 13, Thomas D. Jolly, Vice-President, Aluminum Company of American, and Past President of the American Standards Association, will be the guest speaker at a meeting of the Milwaukee Association of Purchasing Agents. The Association is sponsoring a contest for the best paper on the value of standards in purchasing by a student of Marquette University's Purchasing Class. The award for the prize paper will be presented at the May 13 meeting.

- · · A new type of glass for use in buildings has just been developed which, according to its manufacturers, will absorb the sun's rays, reduce eye strain, and keep fading and bleaching of fabrics to a minimum. It also falls within the specifications of the American Standard Safety Code for Safety Glazing Materials, according to the announcement. Claims for the new type of glass are spectacular. Without sacrificing the light transmission characteristics of high quality glass, it absorbs most of the solar infra-red and ultraviolet rays which results in a room said to be 10 to 20 degrees cooler than one with ordinary glass windows.
- • There is a standardization story in such an outstanding construction job as the New Jersey Turnpike, the American Society for Testing Materials points out in its February journal. ASTM has a special interest because of the use by the New Jersey Turnpike Authority of a great many ASTM specifications, methods of tests, and definitions covering the wide variety of materials that went into the Turnpike. Through the courtesy of one of its members in the engineering and inspection division of the United States Testing Company. ASTM publishes a list of the ASTM standards which helped in the construction of the Turnpike.

• • The American Waterworks
Association announces that the
standard abbreviations used in its
journal has now been modified to
conform to the American Standard
Abbreviations for Scientific and Engineering Terms, Z10.1-1941. The
principal change, the Association
points out, has been the dropping of
periods, except when such removal
would cause ambiguity, as, for example, in the abbreviation for inch
(in.). Some of the abbreviations
listed in the American Standard are:

ampereamp
centimetercm
British thermal unitBtu
brake horsepowerbhp
cubiccu
cubic feet per minutecfm
electromotive forceemf
feetft
Feet per secondfps
pounds per square inchpsi
square foot (feet) soft

Gaillard Seminar, June 1952

Dr John Gaillard, mechanical engineer on the staff of the American Standards Association and lecturer in industrial standardization at Columbia University, will hold his next fiveday private seminar for men in industry from June 23 through 27, 1952, in the Engineering Societies Building, 29 West 39 Street, New York City.

The Gaillard Seminars were started in 1947 upon request from companies for assistance in the organization of their standardization work and the training of their men in writing standard specifications. The total attendance so far has been 142 delegates from 92 organizations. The average seminar group has consisted of 14 men.

The June, 1952, session will comprise ten conferences, one in the morning (9:30 to 12:00) and one in the afternoon (1:30 to 4:00). At each conference a subject will be presented by Dr Gaillard and then discussed around the table.

Places may be reserved now. For details write to Dr Gaillard at 400 West 118 Street, New York 27, N. Y., or phone him at the ASA office, Murray Hill 3-3058. • • The magazine Electrical Manufacturing reports that it is working on a continuing editorial program to bring the story of standardization to its readers. In the January 1952 issue, the editors call attention to the following list of articles. In the past four years these articles have given "news of developments in standards as well as interpretation of their effect upon design":

Eliminating Radio Interference, October 1951, page 138. New FCC standards require careful attention to design of shielding in r-f power equipment.

Specifications for Electrodeposited Coatings, September 1951, page 119. Bringing order to the confusing situation presented by the wide variety of plating standards in common use.

Fhp Induction Motors Made in NEMA Standard Frames, July 1951, page 92. An analysis of horsepower assignments made by the manufacturers to fractionalhorsepower motors built to NEMA frames.

Safe Use of Plastics—The UL Viewpoint, May, 1951, page 110. Policies and test requirements for wire insulation, housings, barrier elements, and other parts affecting safety.

Military Specifications Controlling Plastics Dielectrics, April 1951, page 100. Standards applicable for electrical and electronic uses; why and how standards are developed.

Design Limitations for Ceramic Parts, December 1950, page 90. Methods of fabrication and their effect on forms and teletances; full text of standards adopted by the industry.

Machine Tool Electrical Standards, November 1950, page 85. Full text of revised standards adopted by NMTBA combined with HC standards and comments of the committee.

Safeguards for Safety in Electrical Product Design, October 1950, page 160. Where, why and what safeguards are required; an analysis of the effect of various quasiofficial regulatory bodies.

What Is a "50 C" Motor, July 1950, page 103. Fundamental interpretation of motor temperature ratings in terms of "hottest spot" temperature, as affected by class of insulation, method of measurement, enclosure and service factors.

New Single-Phase Motors in Integral-Horsepower Ratings, April 1950, page 82 and May 1950, page 108. Two-part article giving design and operating characteristics for single-phase capacitor types with ratings up to 20 hp.

Designing the Right Plastic Into Major Appliances, January 1950, page 60. Test methods and specifications used in selecting the most suitable types for vacuum cleaner parts.

Incompatible Standards—An International Problem, December 1949, page 107. Basic screw-thread profile is adopted but Through History
Standards

One of a Series by TOM ROSS

Eli Whitney has sometimes been called "the Father of Standardization," and this is why. At the end of the 18th century, under the authorization of the Fifth Congress, Vice-President Thomas Jefferson gave the inventor of the cotton gin a contract to produce 10,000 muskets. Whitney built a small factory in New Haven and started to work.

Up to that time, the traditional manufacturing method was one in which each man, highly skilled, produced by himself a particular part of the finished job. Whitney took the unprecedented step of dividing his work into steps and putting groups to work on each step in a simplified operation. Each part, copied from a model musket, was interchangeable with its standardized counterpart in the other muskets.

Whitney introduced three new aids in this work: drilling by templates (patterns), filing by jigs (guides), and milling irregular forms. He did not, however, introduce gages to inspect and control the accuracy of the product, but rather depended on keeping his tools sufficiently accurate to make the parts interchangeable.

Tooling up required many months, and Congress became impatient. At a critical stage, Whitney appeared in Washington before an assemblage of government experts and Congressmen. He laid out a pile of parts and assembled ten muskets by picking standard parts at random—an unheard-of feat. Congress was convinced, and thus mass production was started on its way in this country.

standards are still lacking for preferred numbers, limits and fits, ball and roller bearings.

Standards for Universal Motor Parts, July 1949, page 102, Revised NEMA standards include dimensional data for six sizes.

Measuring Sound and Vibration, March 1949, page 108. Test equipment, instruments and standards employed in engineering testing and production control.

Component Varieties Brought Under Control, February 1949, page 94. Methods used by Crosley's engineering department to keep nonstandard components to a minimum.

Color Coding for Molded Tubular Capacitors, February 1949, page 118. System developed by one maker identifies capacity, tolerance and voltage rating.

Unifies Screw Thread Standards, January 1949, page 102. Significance of the new standards and a detailed discussion of their points of difference with former American standards.

Standardization—Its Economic Effects, October 1948, page 124. Significant values of standardization, with emphasis on the voluntary nature of participation.

Flexible Cords for Portable Appliances, September 1948, page 78. Types of construction recognized by Underwriters' and service conditions for which each type is acceptable.

How the "AN" Nomenclature System Works, June 1948, page 122. Key lists and how they are used by the military to identify equipment and parts.

And many other articles in earlier issues on similar subjects. Some of the more recent articles in this bibliogrophy were included in the Electrical Manufacturing editorial reprint service. Consult the listing under Feature Article Reprints for those currently available and use postpaid return cards in the Reader Inquiry Facility to obtain single copies without charge.

 Henry B. Bryans, president of the American Standards Association in 1944, 1945, and 1946, has just been elected vice-president and member of the board of directors of United Engineers and Contractors, Inc.

Mr Bryans retired from the presidency of the Philadelphia Electric Company early this year.

• • Thomas N. Boate, director of public safety of the Association of Casualty and Surety Companies since 1944, has been named manager of the Association's accident prevention department. He succeeds Julien H. Harvey, who retired last month. John V. Grimaldi, director of the industrial division, has been named assistant manager of the department. He will continue his present responsibilities in industrial safety work in addition to assisting Mr. Boate.



A New Vice-Chairman for MSCC

H. H. Otto, Assistant General Manager of the Hudson Coal Company, is newly elected vice-chairman of the MSCC. For more than 20 years Mr Otto has been actively engaged in the study of underground water problems affecting the anthracite region, especially in the northern field. He is also active in the study of stream pollution problems and fine coal cleaning problems. He is a member of the American Institute of Mining and Metallurgical Engineers, the American Mining Congress, and the Northeast Chapter of

the Pennsylvania Society of Professional Engineers, and has been active on various committees of these organizations. Author and co-author of papers on mining, stripping, preparation, and water problems of the anthracite region, Mr Otto has appeared, on behalf of the anthracite industry before legislative committees at Harrisburg, and also before subcommittees of the U. S. Senate and House of Representatives on industry matters.

The States and Safety

(Continued from page 113)

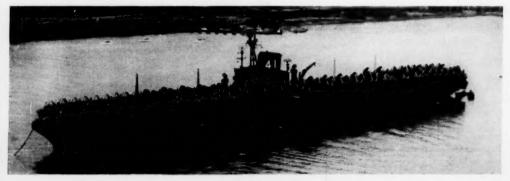
the District of Columbia have codes that are identical with or equivalent to American Standard B11.1-1948. Thirteen states have codes covering the guarding of power presses, of which some rules are at variance with the American Standard while others are similar to the American Standard. Twenty-seven stater have no power press safety codes of any kind.

The Department concludes from its findings that a definite need exists for the adoption of minimum power press safety codes or standards by those states that have no codes or standards covering power presses. It recommends the adoption of the American Standard by all states as a

CMC to Meet on the Aircraft Carrier "USS Midway"

By special arrangements with the U.S. Navy, the Aircraft Carrier "Midway" will be the scene of the Spring meeting of the Company Member Conference at Norfolk, Virginia, late in May. The theme will be "Standards—The Link Between Industry and the Armed Forces." Exact dates of the meeting will be announced later in a special notice to members of the Company Member Conference.

Official U. S. Navy Photograph



means of eliminating the variations now existing between this standard and the codes of the various states.

"Because of the lack of uniformity in State codes, it is difficult for manufacturers of power presses and foot and hand presses to design machines or guards acceptable in all states," the Department declares.

The survey is reported in a pamphlet, "Power Presses—A Comparison of States," Safety Codes with ASA Code B11.1-1948," published by the Bureau of Labor Standards, U.S. Department of Labor, Washington 25, D.C.

AGA Emphasizes Safety

(Continued from page 105)

wall and floor temperatures; that is, under maximum operating temperature conditions. Since the appliance must be in operation in order to achieve these maximum temperature conditions, it is apparent that electrical circuits of the appliance must be energized at the same time the various tests are conducted. To perform the tests simply and with a minimum of time and expense to the manufacturer, specialized equipment has been developed. This electrical test bench is capable of supplying an appliance under test with the nameplate voltage, measuring leakage currents with suitable microammeters in conjunction with a built-in switching arrangement, and supplying the requisite proof voltage during appliance operation.

- • The International Organization for Standardization announces election of the Indian Member Body as a member of the ISO Council.
- • Management of Industrial Inventory. Readers of STANDARD-IZATION who are planning to order a copy of Benjamin Melnitsky's interesting book, Management of Industrial Inventory, should address their order to Conover-Mast Publications, 205 East 42nd Street, New York 17, New York. The publisher was erroneously listed as John Wiley and Sons in our book review (STDZN, January 1952, page 27). Conover-Mast also informs us that the price of the book has been increased, since its publication, to \$4.55.

Book Reviews

Time-Saver Standards, (F. W. Dodge, Incorporated, 119 West 40th Street, New York 18, New York, \$12.50)

The recently issued enlarged edition of this manual contains 635 pages contained in the original edition plus 163 pages of standards issued since the earlier volume was published. It presents, in graphic form, reference material needed in planning, designing, drafting and specification writing for any type of building or building function.

American Standards are given general recognition and are widely adapted throughout the book. For example: American Standard graphical symbols for plumbing, heating, ventilating and piping are included. Standard sizes of windows according to the American Standard Coordination of Dimensions of Building Materials and Equipment are discussed and dimensions listed. The American Standard Scheme for Identification of Piping Systems is presented in graphic form. These are only a few examples.

Of particular interest is the fact that the book presents graphically and simply an unusually wide range of information of value to anyone concerned with the planning or layout of a building. By means of figure drawings, for example, the book shows how much space an average person needs for different types of industrial and office work and home activities. Easy reference material on application of mathematics, weights of materials, lighting, acoustical properties, heating and plumbing, make the book valuable and useful.

1950 Supplement to Screw-Thread Standards for Federal Services, 1944, the 1950 supplement to National Bureau of Standards Handbook H28 (1944), vi, 113 pages, 17 series of tables, 17 series of figures, 50 cents (order from Government Printing Office, Washington 25, D. C.).

Replacing and augmenting the 1949 Supplement to Handbook H24, this new supplement, prepared by direction of the Interdepartmental Screw-Thread Committee, makes effective a number of changes American screw thread standards adopted since publication of the 1944 edition of the Handbook. Approval of these revised standards by the Secretaries of Defense and Commerce and the Secretaries of the Departments of the Army, Navy, and Air Force makes them available for application to new designs and for acceptance of bolts, screws, nuts, and other threaded products that conform to these standards

The Unified standards for thread form, for the coarse-thread series in sizes from ¼ inch to 4 inches, inclusive, and for the fine-thread series in sizes from ¼ inch to 1½ inches, inclusive, as agreed upon at the time the Declaration of Accord was signed, appear in this supplement. In addition, it contains subsequently agreed upon Unified special threads and American National diameter-pitch combinations not

yet recognized as Unified standards, but for which allowances and tolerances have been formulated in accordance with the principles of Unified threads. Tables of tolerances, allowances, and other thread data for threads of special diameters, pitches, and lengths of engagement are also given.

(Note: Foreign remittances must be in U. S. exchange and should include an additional one-third the publication price to cover mailing costs.)

Report on the Elevated-Temperature Properties of Stainless Steels. (American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa. \$4.00)

This 120-page 1952 Report, prepared by Ward F. Simmons and Howard C. Cross of Battelle Memorial Institute and issued under the auspices of the ASTM-ASME Joint Committee on Effect of Temperature on the Properties of Metals, is essentially a graphical summary of elevated-temperature data for the commercially produced stainless steels. Included are summary curves for tensile strength, 0.2 percent offset yield strength, percent elongation, percent reduction of area, stresses for rupture in 100, 1000, 10,000, and 100,000 hr, and stress for creep rates 0,0001 and 0.00001 percent per hr (1 percent in 10,000 and 100,000 hr).

An Appendix contains the primary data from which the summary curves were drawn. The data sheets in the Appendix give the chemical composition, processing data, and other pertinent information about the steels included in this survey.

The following compositions are covered

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18 Cr 8 Ni Ti	25 Cr - 20 Ni
18 Cr - 8 Ni Cb	25 Cr - 20 Ni S
18 Cr - 8 Ni Mo	15 Cr — 35 Ni
18 Cr - 8 Ni Mo Ch	

The Engineer's Illustrated Thesaurus. By Herbert Herkimer, (The Chemical Publishing Co., Inc., 212 Fifth Ave., New York 10, N. Y. \$6.00)

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and Kitchens — Air Supply by Natural Ventilation — Safe Stairs for Schools.

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